



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,382	09/21/2000	Marc Rabarot	025219-272	2963

7590 08/23/2002

Doane Swecker & Mathis  
Suite 400  
1737 King Street  
Alexandria, VA 22314-2727

EXAMINER

BLOUNT, STEVEN

ART UNIT	PAPER NUMBER
----------	--------------

3726

DATE MAILED: 08/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

69/604,382

Applicant(s)

Rabarov et al

Examiner

Blount

Group Art Unit

3726

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 7/22/02
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 14-27 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 14-27 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

Office Action Summary

Art Unit: 3726

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/22/02 has been entered.
2. Applicant is requested to correct the following informality in claim 14, line 4: "lest" should read "least".

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14, 16-20, and 22-25 and 27 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. patent 4,016,855 to Mimata in view of U.S. patent 5,069,003 to Hogregfe et al.

With regard to claim 14, Mimata teaches forming semiconductor wafers by machining (moving a tool translationally) as shown in figure 1. Mimata also teaches that "and then the wafer is segmented into pellets and then removed from the wafer support to obtain individual semiconductor pellets". Further, Mimata teaches machining (with a scribe) "shallow" grooves.

Art Unit: 3726

The examiner notes that the wafers are inherently cut from the support, and that such cutting operations are commonly known in the art. Further, Miamata refers to a cutting operation in several locations. In col 1 lines 27+, while referring to a Japanese patent, it is stated that “the scribed grooves formed by a diamond cutter are shallow and hence, when cutting out the individual pellets by cracking along the scribed grooves, fissures or fractures could be produced...”. Mimata does not however teach forming the microcomponents to have an optical quality. Hogregfe teaches a similar process (only the cuts are not made parallel to the substrate and the cuts are carried through the thickness of the substrate), wherein microcomponents of an optical quality are formed. See the abstract and note that in column 1, last sentence, the faces are polished, and also that the materials formed are “microprisms”. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the method of forming microcompoents taught in Mimata to form microcomponents that exhibit a microrelief of an optical quality, in light of the teachings of Hogregfe et al, in order to provide a method of making a microcomponent that has such optical quality that it may be used in a microlaser.

With regard to claim 16, note the polishing step mentioned above.

With regard to claim 17, a single tool is used in Mimata.

With regard to claim 18, Mimata teaches the invention as described above, while the use of a scribe taught in col 1 lines 25+ suggests the use of additional tools.

With regard to claim 19, member 3 of Mimata is a saw.

With regard to claim 20, microprimis are formed in Hogregfe et al.

Art Unit: 3726

With regard to claim 22, see blade 3 in figure 1 of Mimata.

With regard to claim 23, member 3 of Mimata could act as a carrier for an abrasive material which is placed in the spaces of the machined microreliefs.

With regard to claim 24, see col 2, lines 18+ of Hogregfe et al (etching suggested by the use of a solvent).

With regard to claim 25, Official Notice is taken that it is well known to coat optical materials, such as lenses and prisms.

With regard to claim 27, note the above, as well as the fact that cutting microprisms to this depth is taught in Hogregfe et al. See lines 7+ of the abstract.

5. Claims 15, 21, and 26 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. patent 4,016,855 to Mimata in view of U.S. patent 5,069,003 to Hogregfe et al as applied to claim 14 above, and further in view of U.S. patent 5,868,125 to Maoujoud.

With regard to claim 15, Mimata/Hogregfe et al teach a first machining step as described above. Mimata/Hogregfe et al do not, however, teach a second substep for finishing. Maoujoud teaches machining wherein a first step comprising blank forming and a second step comprising finishing comprise the machining step.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided Mimata/Hogregfe et al with a machining process wherein blank forming and finishing occur in first and second substeps, in light of the teachings of Maoujoud, in order to

Art Unit: 3726

provide a method wherein the removal of the materials from the substrate may occur in a more efficient manner.

With regard to claim 21, Mimata/Hogregfe et al teach the invention as described above, but does not teach forming the microreliefs using a V profile abrasive blade. Maoujoud teaches an abrasive tool of approximately V shape for cutting objects. See abstract.

With regard to claim 26, Official Notice is taken that it is well known in the art to use polishing blades with different sizes of grits to polish different areas differently.

### ***Response to Arguments***

7. Applicant's arguments filed 7/22/02 have been fully considered but they are not persuasive.

The examiner notes for the record that claims 14, 16-20 and 22-25 were rejected under 35 U.S.C. 103(a) and not 102(b). The 112 second paragraph rejections have been withdrawn, as has been the objection. Further, the examiner notes with agreement applicants remark regarding the fact that with regard to Maloy (dated 1886) "strains credulity to envision that a craftsman of the 19th century would be concerned with, or building a machine that, makes reliefs on the order of less than 1000 microns, and the slab of Maloy cannot be shown to be a microcomponent having such microreliefs". Although the claim does not specify the dimensions of the reliefs, and it is well known that patent claims are to be given their broadest reasonable interpretation during examination, applicants point is well taken, and the rejection in view of Malloy is

Art Unit: 3726

withdrawn. However, for the reasons given in the rejection above, The examiner believes that the Mimata/Hogregfe et al references teach most of the claims (and the rest in combination with Maoujoud) as described above under 35 U.S.C. 103(a).

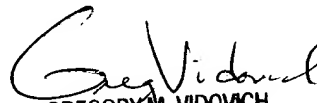
***Contact Information***

8. Official documents related to the instant application may be submitted to the Technology Center 3700 mail center by facsimile at (703) 305-3579/3580. Should Applicant desire to submit a DRAFT response to the Examiner by facsimile transmission, then Applicant should contact the Examiner at the number below for instructions concerning the transmission of DRAFT documents. Applicant is reminded to clearly mark any facsimile transmission as "DRAFT" if it is not to be considered as an official response. Examiner Blount may be contacted at the Patent Office between the hours of 9:00 am to 5:30 P.M. Monday through Friday.

9. Any inquiry concerning this communication should be directed to Examiner Steven Blount at telephone number (703) 305-0319.

SB

8/21/02

  
GREGORY M. VIDOVICH  
PRIMARY EXAMINER  
SEE A/ 3726